

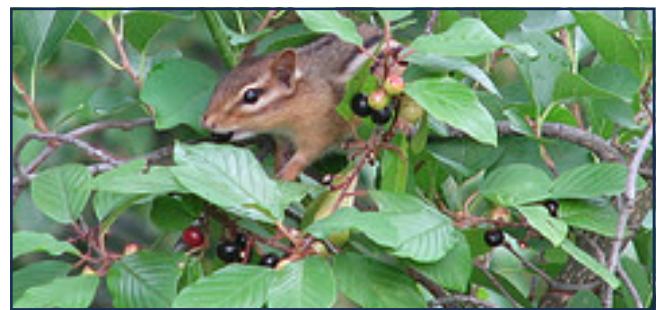
# BUCKTHORN

invasive  
fact sheet



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Buckthorn replaces native trees and shrubs in Vermont's forests and fields. It is easy to see in the fall when its dark blue berries cover the tree's branches.



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common buckthorn  
glossy buckthorn

common buckthorn (*Rhamnus cathartica*)



orange  
tissue



opposite, toothed leaves with "u" vein

glossy buckthorn (*Rhamnus frangula*)

alternate  
glossy  
leaves



unripe  
red  
berries

Photos © John Randall/The Nature Conservancy

## The Problem

- ◆ Birds and mammals feed on buckthorn berries during the winter, aiding in the dispersal of seeds. While buckthorn may benefit from this behavior, the feeding animals do not. Buckthorn berries contain emodin, a natural laxative, that prevents mammals from digesting sugars found in the berries, like this Eastern chipmunk shown above.
- ◆ Like many other invasive trees and shrubs, buckthorn leafs out early and retains its leaves into late fall, giving it a much longer advantageous growing season than native plants.
- ◆ Buckthorn can increase the amount of nitrogen in the soil, impacting the composition of native species that can grow in the area.

# BUCKTHORN

## Integrated Invasive Plant Management



Most landowners have more than one invasive plant species on their property. Before you head for the clippers, develop a management plan. A well-developed plan that is specific to your property will help you save time and money, increase long-term effectiveness, and reduce the spread of invasives.

- ✓ **Create land management goals.** Determine what natural features you are most interested in protecting and what wildlife management, forestry activities or trail building goals you have for the next 5–20 years, and what you want the land to be like in 200 years.
- ✓ **Map the invasive species on your property and the surrounding area.** Look for invasive plants along logging roads and trails, and other openings in the forest canopy. Roughly map the species that you find, and convey a sense of the size and density of the populations.
- ✓ **Practice Early Detection and Rapid Response (EDRR).** Each year, walk your entire property. Look for and remove new occurrences of invasive species. Stay up to date on what invasive species are coming into your area.
- ✓ **Consider available resources and develop a timeline.** Be realistic with the time and money you have and set goals accordingly. Based on what resources you have available, time your work accordingly.
- ✓ **Determine a weed- or site-led management approach.** *Site-led management* is designed for the landowner interested in protecting a particular resource or natural feature from encroachment. *Weed-led management* approaches the problem from a single-species perspective. Your approach may change from one part of your property to another, depending upon the species present, natural features, vegetation types, and land management goals.
- ✓ **Integrate invasive species prevention and management into all of your land management activities.** Certain land management activities may spread invasive species. Predict what activities (e.g. logging, construction of trails, roads or buildings) will cause future problems and take necessary precautions. For example, after spending time in an area that has invasive plants, check clothing for seeds and remove soil from shoe soles. Require that any logging, mowing or excavation equipment that comes on your property is weed-free. Monitor new plantings, whether within designed landscapes or natural settings, for invasives that may have been present in imported soil. Before doing a cut in a timber stand, remove all invasives. Ask your forester to incorporate invasive plant management into your land management plan.

### Mechanical removal:

**Hand pull:** Any time of year when the ground is soft, especially after a rain, hand pull small plants by the base of the stem. Be sure to pull up the entire root system. Hang from a branch to prevent re-rooting. For larger plants, use a Weed Wrench™. Continue to monitor the area every year for new seedlings.

**Cut stump:** Cut plants back any time of year. Wrap a few layers of burlap or thick plastic over the stump and tie tightly with twine. You will need to check stumps periodically and cut back any new growth.

### Chemical removal:

**Cut stump:** Cut the plant 4 inches above the ground. Use a drip bottle to apply a 18-21% glyphosate solution to the stump within one hour of cutting. This is best done in late summer through winter when plants are transporting resources to their root systems.

**Low volume foliar spray:** This method is used for dense populations and best left to a contractor. In the fall, when native plants are losing their leaves, spray a 2% glyphosate or triclopyr solution on the entire leaf surface of the plant. In order to avoid drift to native plants, spray only on calm days.

### Safe Chemical Application

- ✓ **The label found on the herbicide container is the law.** Read this label in its entirety. It will teach you what concentrations to use, what protective clothing to wear, how to apply the product, and what environmental and human health hazards are associated with the chemical. Improperly used herbicides can cause both short- and long-term health and environmental problems. More is not better! Pesticide labels can be found at <http://www.msds.com/>.
- ✓ **Use aquatic formulations within 10 feet of water.** You need a permit to apply herbicides in wetlands. You cannot apply herbicides within 100 feet of a wellhead. Contact VT DEC at 802-241-3761 for more information.
- ✓ **You need to be certified to apply herbicides on land that you do not own.**
- ✓ **Hire a contractor to manage large infestations.** A good contractor will have the knowledge to help create an effective management plan. For a list of certified contractors, contact the Department of Agriculture at 802-828-3482.
- ✓ **Develop an Integrated Plant Management approach.** Use chemical control as only ONE piece of your prevention and management strategy.